

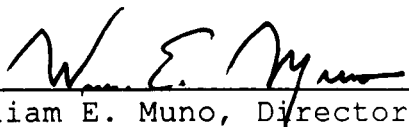
Five Year Review Report

**Fadrowski Drum Disposal Superfund Site
Franklin, Wisconsin**

Pursuant to CERCLA

Prepared By:

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Date

I. INTRODUCTION

A. Authority and Purpose

The United States Environmental Protection Agency (U.S. EPA), Region 5, conducted this statutory five-year review under Section 121(c) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The purpose of a statutory five-year review is to evaluate whether a completed remedial action remains protective of human health and the environment at sites where hazardous waste remains on-site at levels that do not allow for unlimited use and unrestricted exposure. The Type Ia review conducted for this site is applicable to a site at which response is ongoing. This review will be placed in the Site files and local repository for the Fadrowski Drum Disposal Superfund Site (the "Site" or "FDDS") in Franklin, Wisconsin.

B. Executive Summary

Continued monitoring of the site, on a reduced scale based on a statistical analysis of previous groundwater monitoring data, is recommended on this site until all applicable clean-up standards are met on a consistent basis. A more detailed explanation on this recommendation is provided for in Section III of this report.

C. Site History

FDDS is comprised of approximately 20 acres of semi-rural land in southeastern Wisconsin, just outside of the Milwaukee city limits. It is bounded by the Menards lumber and retail store ("Menards") to the north, 27th Street to the east, an unnamed stream to the west, and a tree line separating the FDDS from a fill area on the southern end. The unnamed stream discharges to the Root River approximately three miles southwest of the site. Although classified as semi-rural, there is considerable development of small businesses and residential homes along 27th Street. West of the site is fallow agricultural land, whereas the land northwest and north of FDDS is cultivated agricultural land. Approximately one-quarter mile north of FDDS, along 27th Street, is a large residential development on the east side of the street and a trailer park on the west. There are several residences with private wells located within 2,000 feet of the site, along with several municipal wells used by the Cities of Franklin and Oak Creek located within three miles of FDDS. Fortunately, there are no indications that drinking water from these wells have been contaminated by the site.

Between 1970 and 1982, FDDS was owned and operated by Edward J. Fadrowski ("Fadrowski") as an unlicensed disposal site. The

Wisconsin Department of Natural Resources ("WDNR") disclosed the disposal of non-exempt waste at the site in 1981 during a site inspection, but did not pursue enforcement actions. In December 1982, Menard, Inc. purchased FDDS and the two adjacent land parcels and began construction of a Menard's home improvement center. During construction, buried drums containing unknown liquids and sludges were uncovered during excavation and grading work in May 1983. Laboratory analyses of samples collected by WDNR indicated that the drum contents were characteristically hazardous. Samples contained high concentration of lead (32,700 parts per million (ppm)), chromium (6,000 ppm), the pesticide DDT (1,450 ppm), and traces of arsenic. The samples were also analyzed for volatile organic compounds (VOCs) and were found to contain petroleum derived hydrocarbons. Ignitability test results for the other waste samples collected by WDNR at FDDS were found to be hazardous because their flash points were below 140 °F. Based on these and other findings, the site was placed on the National Priorities List on October 15, 1989, by U.S. EPA.

International Ink Company (formerly Acme Printing Ink Company), a Potentially Responsible Party (PRP), conducted a Remedial Investigation/Feasibility Study (RI/FS) as part of complying with the April 17, 1987, Administrative Order on Consent with EPA. The RI was completed on February 19, 1991, followed by the FS on May 22, 1991. RI results confirmed that the groundwater throughout the clay till layer (top layer of 3 distinct geologic units found at the site) was impacted with organic/inorganic compounds and cyanide which exceeded Wisconsin's Preventive Action Limits (PALs) and/or Enforcement Standards (ES). The water in the unnamed stream was contaminated with organics (VOCs) and cyanide, while the sediment contained several organic compounds (e.g., polycyclic aromatic hydrocarbons or "PAH's") and metals. In addition, the surface and subsurface soils at the site were contaminated with organic compounds and a large number of inorganic elements.

Based on the results of the RI/FS and issuance of the draft proposed plan for public comment, U.S. EPA issued a Record of Decision (ROD) for FDDS on June 10, 1991, with concurrence from WDNR.

II. DISCUSSION

A. Remedial Objectives

The selected remedy contained in the ROD is expected to eliminate or reduce migration of the contaminants from the site to the groundwater and to reduce the risk associated with exposure to

the contaminated materials and, hence, protect human health and the environment. The major components of the selected remedy include:

- Excavation of previously identified drums and associated characteristically hazardous soils;
- Construction of trenches to find and excavate additional containerized waste and associated characteristically hazardous soils;
- Off-site recycling or treatment and disposal of drummed waste;
- Treatment and disposal of contaminated soil;
- Construction of a landfill cover (i.e., cap), in compliance with the State's landfill closure requirements;
- Use institutional controls on landfill property to limit land and groundwater use; and
- Monitoring of groundwater and surface water to ensure effectiveness of the remedial action and evaluate the need for future groundwater treatment.

Groundwater is to be monitored until cleanup standards are met. Applicable cleanup standards are Wisconsin's Preventive Action Limits (PAL's) and/or Enforcement Standards (ES) in effect when the ROD was signed.

B. Remedial Action

The RA field activities were initiated in September 1993 and completed in September 1994. This included the following activities:

- Removal of 167 buried drums;
- Excavation of approximately 100 cubic yards of impacted soils;
- Removal and closure of the 2.6 million gallon pond;
- Consolidation of over 18,000 cubic yards of waste (primarily demolition debris);
- Installation of a multi-layered cover system over areas

known to contain waste; and

- Installation of monitoring wells in the up gradient and down gradient locations at three (3) geological units (clay/sand & gravel/dolomite) across the site.

Subsequent to the conclusion of construction activities, U.S. EPA and WDNR conducted a final inspection of the site on February 2, 1995. Remaining items to be addressed were identified during this inspection. After addressing the remaining items in the inspection report, the PRP's submitted a Remedial Action Construction Completion Report ("Report") to U.S. EPA on March 24, 1995. The report certified that the construction activities were completed consistent with the design and specifications outlined under the approved remedial design report. U.S. EPA, with concurrence from WDNR, gave conditional approval of the report on June 26, 1995.

It is anticipated that groundwater will achieve clean-up standards through natural attenuation. However, the effectiveness of the remedy will be monitored through the approved sampling program instituted beginning in October 1995. Quarterly monitoring of the site has been on-going since that time. Samples collected were analyzed for a variety of parameters (primarily U.S. EPA's Target Analyte List for inorganics and Target Compound List of organic compounds). Eight (8) quarters of monitoring data is expected to be completed by the fall of 1998. At this time, U.S. EPA and WDNR have reviewed the first seven (7) quarterly monitoring reports from the responsible parties. Written comments were provided to the responsible parties after each review. Upon completion of 8 quarterly sampling events, future monitoring will be conducted on a semi-annual basis.

Later this year, the responsible parties will be submitting a groundwater/surface water assessment report to U.S. EPA and WDNR, as required under the April 1993 UAO (i.e., Two-Year Groundwater/Surface Water Assessment Report). This report, subject to review and approval by the regulatory agencies, will determine the status and trend of groundwater contamination at the site and will estimate the length of time it will take to meet groundwater cleanup standards via natural processes. If the data suggests that the remedy will not be achieving the prescribed cleanup levels within a reasonable amount of time, U.S. EPA and Wisconsin will consider additional actions necessary to comply with the objectives outlined in the ROD.

III. RECOMMENDATIONS

I recommend continued groundwater monitoring, per the approved monitoring program, with a possible reduction of pollutants to be sampled/analyzed based on the concentration found. Previously, U.S. EPA had determined that quarterly sampling for pesticides and PCB's were no longer necessary since these pollutants were not detected after a few rounds of sampling; future reductions of metals and/or organic parameters will be decided after evaluation of the previous 8 quarters of monitoring data and submission of the 2-year statistically-based assessment report from the PRP's. At this time, results of previous quarterly groundwater surveys conducted by the PRPs since October 1995 indicate that several inorganic analytes (metals and cyanides) are above applicable federal maximum contaminant levels (MCL's) for drinking water and State groundwater standards, both in upgradient and downgradient wells. The presence of these elevated levels of contaminants of concern clearly document that prescribed clean-up levels for this site have not been achieved and, thus, necessitate the need for continued monitoring. It is worth noting that the decision on employing natural attenuation as part of the remedy might not result in achieving clean-up levels as fast as an active pump and treat system might.

Consistent with the language in the UAO, the PRPs will be responsible for conducting periodic groundwater surveys, with oversight from U.S. EPA. WDNR will provide technical assistance to U.S. EPA when appropriate, consistent with past practices.

IV. STATEMENT ON PROTECTIVENESS

I certify that the remedies selected for this site remain protective of human health and the environment.

V. NEXT FIVE-YEAR REVIEW

The next five-year review will be completed by September 7, 2003 which is 10 years from the date on-site construction activities started at the site.